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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,080	03/07/2001	Natalino Giorgio Busa	NL000133	5082

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

GERSTL, SHANE F

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/801,080	Applicant(s) BUSA ET AL.	
	Examiner Shane F Gerstl	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-5 have been examined.

Papers Received

2. Receipt is acknowledged of the amendment papers submitted, where the papers have been placed of record in the file.
3. The amendment has successfully overcome the objection to the abstract, the objections to the specification regarding the reference listing, the objections to the claims, and some of the 35 USC 112 rejections; each of which is withdrawn. The objection to the specification and the antecedent rejection remain as given below.

Election/Restrictions

4. Applicant's election without traverse of claims 1-5 in the reply filed on 1/10/05 is acknowledged.

Specification

5. The disclosure is objected to because of the following informalities: there are no section headings anywhere in the disclosure except for the abstract. This makes the disclosure very difficult to interpret. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.

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- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The title of the invention is not descriptive of the invention as claimed. A new title is required that is clearly indicative of the invention to which the claims are directed.

First, the title is no longer accurate of the invention since the claims regarding compiling a program have not been elected in response to the restriction. Second, the title does not clearly describe the claimed invention but only gives the general field of art in which it resides.

Oath/Declaration

7. The examiner is requesting clarification regarding the Oath and Declaration. It is noticed that formerly all inventors of the invention had the same address. The examiner is requesting confirmation that only the post office address of Mr. Paul Lippens has

changed and that the other inventors' addresses have not. If this is not a case, then a new Declaration is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 recites the limitation "the input data" in line 7. There is insufficient antecedent basis for this limitation in the claim. Though input operations have been specified, no input data has been previously defined as a part of this operation. The examiner is taking "the input data" to mean "input data" to be consistent with the introduction of the phrase "output data".

Claim Rejections - 35 USC § 102

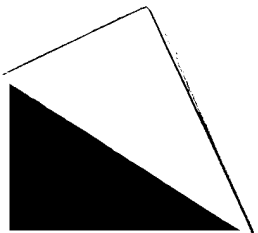
11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Connor (6,266,766).

13. In regard to claim 1, O'Connor discloses a data processing device, comprising a master controller, a first functional unit (figure 1, element 10) including a slave controller, a second functional unit (figure 1, element 20), and a common memory means shared by the first and second functional units (figure 1, element 30), the data processing device being programmed for executing an instruction, execution of said instruction involving input/output operations by the first functional unit, wherein said execution involves at least one of: output data of the first functional unit being processed by the second functional unit in the midst of execution of said instruction and input the input data to the first functional unit being generated by the second functional unit in the midst of execution of said instruction. [Column 1, lines 16-17 and lines 28-32 show that the disclosed processor executes (processes) instructions. Figure 1, shows that the first execution unit outputs data processed by the second functional unit and data input to the first functional unit by the second functional unit. This is done during execution because the data is then executed by the execution units. The claims state that the second functional unit operates on data input from the first functional unit, which is executing an instruction, "in the midst of" execution of that instruction. The included dictionary definition of "midst" shows that the term means "a position of proximity to others". Thus a functional unit operating in the midst of execution by another functional unit is only operating in a time period proximate to the another functional unit and not necessarily concurrently. That being the case, in figure 1 when the second execution



unit executes data directly given from the first execution unit, the operation of the second execution unit is in close proximity to the execution of the first execution unit and thus operates in the midst of the execution of the first unit. Column 1, lines 32-53 shows that the processor uses interlocks when data is not ready. The bypassing function eliminates some need for interlocking as stated, but not all since an interlock is still needed if the appropriate data has not been executed and ready for bypassing. Therefore, interlocking exists in the processor and inherently there is a master controller to control the interlocks. Column 2, lines 9-10 and figure 2 show that there is a separate controller for controlling the bypass functionality. This is the slave controller.]

14. In regard to claim 2, O'Connor discloses the data processing device according to claim 1, wherein the first functional unit is arranged for processing instructions of a first type corresponding to operations having a relatively large latency and the second functional unit is arranged for processing instructions of a second type corresponding to operations having a relatively small latency. [Column 1, lines 54-61 disclose that each of the execution (functional) units take varying amounts of time to complete. Therefore, it is disclosed that the first functional unit takes longer than the second. Thus the first functional unit processes operations of a relatively large latency and the second functional unit of a relatively small latency in comparison to each other.]

15. In regard to claim 3, O'Connor discloses the data processing device according to claim 1, having halt means controllable by the master controller for suspending operation of the first functional unit. [As shown above, the master controller is used for implementing interlocks (halt means), or suspending execution, if the data is not ready.

So if data for the first functional unit is not ready and cannot be bypassed, the first functional unit is halted.]

16. In regard to claim 4, O'Connor discloses a method of operating a data processing device, comprising:

- a. a master controller for controlling operation of the data processing device; [Column 1, lines 32-53 shows that the processor uses interlocks when data is not ready. The bypassing function eliminates some need for interlocking as stated, but not all since an interlock is still needed if the appropriate data has not been executed and ready for bypassing. Therefore, interlocking exists in the processor and inherently there is a master controller to control the interlocks.]
- b. a first functional unit (figure 1, element 10), which includes a slave controller, the first functional unit being arranged for executing instructions of a first type corresponding to operations having a relatively long latency; [Column 1, lines 16-17 and lines 28-32 show that the disclosed processor executes (processes) instructions. Column 2, lines 9-10 and figure 2 show that there is a separate controller for controlling the bypass functionality. This is the slave controller. Column 1, lines 54-61 disclose that each of the execution (functional) units take varying amounts of time to complete (because of different types of instructions). Therefore, it is disclosed that the first functional unit takes longer than the second. Thus the first functional unit processes operations of a relatively large latency in comparison to the second unit.]

c. a second functional unit (figure 1, element 20) capable of executing instructions of a second type corresponding to operations having a relatively short latency, wherein the first functional unit during execution of an instruction of the first type receives input data and provides output data, and said execution involves at least one of: output data of the first functional unit being processed by the second functional unit in the midst of execution of said instruction and input data to the first functional unit being generated by the second functional unit in the midst of execution of said instruction. [As shown above, the first functional has a relatively long latency compared to the second unit so the second functional has a relatively short latency compared to the first. Figure 1 shows how the second functional unit provides input data for the first functional unit and receives output data from the first unit. This is done during execution because the data is then executed by the execution units. The claims state that the second functional unit operates on data input from the first functional unit, which is executing an instruction, "in the midst of" execution of that instruction. The included dictionary definition of "midst" shows that the term means "a position of proximity to others". Thus a functional unit operating in the midst of execution by another functional unit is only operating in a time period proximate to the another functional unit and not necessarily concurrently. That being the case, in figure 1 when the second execution unit executes data directly given from the first execution unit, the operation of the second execution unit is in close proximity to

the execution of the first execution unit and thus operates in the midst of the execution of the first unit.]

17. In regard to claim 5, O'Connor discloses the method according to claim 4, wherein the master controller temporarily suspends operation of the first functional unit during execution of instructions of the first type. [As shown above, the master controller is used for implementing interlocks (halt means), or suspending execution, if the data is not ready. So if data for the first functional unit is not ready and cannot be bypassed, the first functional unit is halted.]

Response to Arguments

18. Applicant's arguments filed 1/10/05 have been fully considered but they are not persuasive.

19. Applicant has argued in regards to claims 1 and 4 that the execution units of O'Connor do not operate concurrently to achieve execution of an instruction. It is noted that this feature upon which applicant relies is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim 1, for example, does not state that the execution units or functional units operate concurrently to achieve execution of an instruction. The claims state that the second functional unit operates on data input from the first functional unit, which is executing an instruction, "in the midst of" execution of that instruction. The included dictionary definition of "midst" shows that the term means "a position of proximity to others". Thus a functional unit operating in the midst of

execution by another functional unit is only operating in a time period proximate to the another functional unit and not necessarily concurrently. That being the case, in figure 1 when the second execution unit executes data directly given from the first execution unit, the operation of the second execution unit is in close proximity to the execution of the first execution unit and thus operates in the midst of the execution of the first unit.

Conclusion

20. The following is text cited from 37 CFR 1.111(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane F Gerstl whose telephone number is (571) 272-4166. The examiner can normally be reached on M-F 6:30-4:00 (First Friday Off).

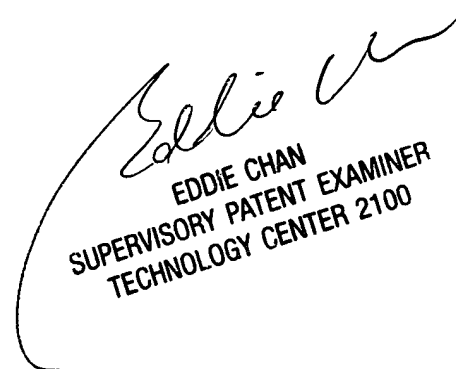
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shane F Gerstl
Examiner
Art Unit 2183

SFG
March 30, 2005


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SUPERVISORY PATENT EXAMINER
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